

**Electricity**

1. What are the two types of electricity?
  - a. There are not 2 types of electricity
  - b. Positive and negative
  - c. Alternating and direct
2. What is the charge of a proton?
  - a. Positive
  - b. Negative
  - c. Neutral
3. What is the charge of an electron?
  - a. Positive
  - b. Negative
  - c. Neutral
4. Which current changes direction quickly?
  - a. Direct
  - b. transposing
  - c. Alternating
5. True or False: Electricity only travels through open circuits
  - a. True
  - b. False
6. Why are electrodes covered with rubber?
  - a. To make them more compact
  - b. To make them look better
  - c. To stop the electrons from electrocuting you
7. Which substance dissolves I water to form a conducting solution?
  - a. Electrodes
  - b. Electrolytes
  - c. Electrochemical cells
8. True or False: A car battery can power a giant truck
  - a. True
  - b. False
9. What is a positive or negative electrochemical cell also known as?
  - a. Battery
  - b. Electrode
  - c. Electrolyte
10. What is electricity?
  - a. A form of energy caused by moving electrons
  - b. An atomic particle with a negative electric charge
  - c. An atomic particle with neither a negative or positive charge
  - d. None of the above
11. What unit is used to measure electric current?
  - a. Ampere
  - b. Electromotive force
  - c. Ohm
  - d. Resistance
12. What two charged are needed for a complete circuit?
  - a. Positive, negative
  - b. Negative, negative
  - c. Positive, positive

## Technology

1. Which of the following is an example of technology?
  - a. Paper
  - b. Frog's tongue
  - c. Rock
2. Which of the following is the truest about technology?
  - a. It is organic
  - b. It is man made
  - c. It is dangerous
  - d. It is electric
3. What is the definition of technology?
  - a. An organic object that makes humans' lives easier
  - b. A manmade object that makes humans' lives harder
  - c. An organic object that makes humans' lives harder
  - d. A manmade object that makes humans' lives easier
4. Which is NOT an example of technology?
  - a. Analytical engine
  - b. R-4360 Radial Engine
  - c. Iron Ore
5. True or False: You use technology in your everyday life.
  - a. True
  - b. False
6. In which way might technology impact our lives?
  - a. It could protect us from fires and other disasters
  - b. It creates new jobs and economy, which is good for nations
  - c. It makes life and living easier
  - d. All of the above
7. Which is NOT an example of technology?
  - a. Waffle
  - b. Woodplank
  - c. Pot
  - d. Clay
8. Why is everything man-made considered a technology?
  - a. We invent them and they are used to make life easier
  - b. It is electric and high-tech which is modern and commonly used
  - c. Because animals cannot function the way humans can, so they cannot make technology
9. If it is naturally made (such as wood, rock, gold) is it considered technology?
  - a. Yes, it is a technology
  - b. No, it is not technology
  - c. Sometimes it is technology
  - d. Most of the time it is technology
10. Which is the best example of technology?
  - a. Dog
  - b. Chair
  - c. You
  - d. Worm
11. Where does technology come from?
  - a. A higher dimension
  - b. By mankind
  - c. Other machines or utensils

## **Mousetrap Cars**

1. What is torque?
  - a. A movie
  - b. A twisting force
  - c. A creak in the car
2. What powers a mousetrap car?
  - a. A string
  - b. Wheels
  - c. A mouse trap
3. What force is needed between the ground and wheels to cause movement? (hint: it is why we added balloons around the wheel)
  - a. Perpendicular angles
  - b. Conservation of mass
  - c. Friction
  - d. Parallel angles
4. How do aerodynamics affect cars?
  - a. Prevent rust
  - b. Prevent air resistance
  - c. Prevent tire burn-out
5. Which wheels had and axel ratio would be the most efficient and cause the mousetrap car to move the farthest?
  - a. Big wheels, small axel
  - b. Big wheels, big axel
  - c. Small wheels, big axel
  - d. Small wheels, small axel
6. What size wheels make the car go farthest?
  - a. Small
  - b. Big
  - c. Wheels do not affect the distance a car travels
7. What is leverage
  - a. The elevation of a lever
  - b. The area of an engine that uses a lever
  - c. The exertion of force through a lever
8. True or False, a higher friction makes a car travel longer
  - a. True
  - b. False
9. Do the front wheels or the back wheels make a mousetrap car further?
  - a. Front
  - b. Back
  - c. it depends on which axel you attach the string to
10. which results in the longest distance for a mousetrap car?
  - a. Nice round wheels
  - b. Big wheels
  - c. Longest lever
  - d. Additional weight on the car

## **Quick Design Challenge**

1. Which is NOT a step in the design process?
  - a. Make a hypothesis
  - b. Imagine ways to solve a problem
  - c. Plan a design
  - d. Create and test a design

2. Which shows the correct order to utilize the principles of design?
  - a. Imagine, plan, improve, create, ask
  - b. Ask, imagine, plan, create, improve
  - c. Ask, create, imagine, plan, improve
  - d. Improve, ask, plan, create, imagine
3. Which force did you need to overcome to make the wind-powered vehicle move?
  - a. Weight
  - b. Gravity
  - c. Density
  - d. All of the above
4. Which surface is the best to use if you want your wind-powered vehicle to travel the farthest?
  - a. Waxed floor
  - b. Grass
  - c. Carpet
5. Which ways could you use move your wind-powered vehicle?
  - a. Fly
  - b. Roll
  - c. Slide
  - d. All of the above

### **Current Events**

ccd

1. What is CCD?
  - a. Copper cream discord
  - b. Colony collapse disorder
  - c. Colony control disease
2. True or false, Bees are important in our world.
  - a. True
  - b. False
3. All of these were investigated as a possible cause for CCD except which one?
  - a. Cell phone use
  - b. Mites
  - c. An AIDS like disease
  - d. Pesticides
  - e. Water sources
4. True or False, CCD is causing millions of bees to disappear world wide
  - a. True
  - b. False
  - c.

Olympics

1. How many events are in the Winter Olympics?
  - a. 12
  - b. 15
  - c. 18
  - d. 20
2. How long does it take for a country to prepare to host the games?
  - a. 3 years
  - b. 5 years
  - c. 4 years
3. When were the first modern Olympics held?
  - a. 10,000 BC
  - b. the beginning of time
  - c. 2000
  - d. 1924

4. How many countries competed in the 2014 winter Olympics?
  - a. 012
  - b. 88
  - c. 76
  - d. 95
5. How many athletes participated in Socchi?
  - a. 1
  - b. 2368
  - c. 2873
  - d. 3145
6. What are the Olympics?
  - a. Competitive games played between athletes from different countries
  - b. A board game
  - c. A tasty cereal
7. How much is the next Olympics expected to cost the hosting country?
  - a. \$1,000,000
  - b. \$2,500,600
  - c. \$5,000,000,000
  - d. \$6,000,000,000

### **Computer Science / Code**

1. Which job, on average, is expected to pay the highest in 2014?
  - a. Nurse
  - b. Computer programmer
  - c. Waiter
2. What percentage of American schools offered computer programming as a class in 2014?
  - a. 10%
  - b. 20%
  - c. 50%
  - d. 90%
3. Which description best describes a computer scientist?
  - a. One who blends human ideas and digital tools
  - b. One who writes codes
  - c. One who fixes broken computers
4. Which is a computer science job?
  - a. Cook
  - b. Data structure
  - c. Doctor
5. On code.org, how do you move the objects (angry bird / zombie / etc)?
  - a. Program the moves using the codes provided
  - b. Drag and drop the object
  - c. Program an end destination
6. What is computer science?
  - a. A study of the principle and use of computers
  - b. The making of computers
  - c. The making of televisions
  - d. All of the above
7. How do you make something move in programming?
  - a. Write a list of commands
  - b. Go in the game and make it move
  - c. Chant "move, move, move"
8. What is code?

- a. Orange
- b. Swag
- c. Directions to make things in a program do something
- d. Yolo
- e. All of the above